Wisconsin's source water assessment program

As part of a nationwide program, the Wisconsin DNR is assessing the susceptibility of all Wisconsin public drinking water systems to contamination. The goal of this program is to identify threats to public drinking water sources and help implement a source water protection program to reduce the risk contaminants pose to our sources of drinking water.

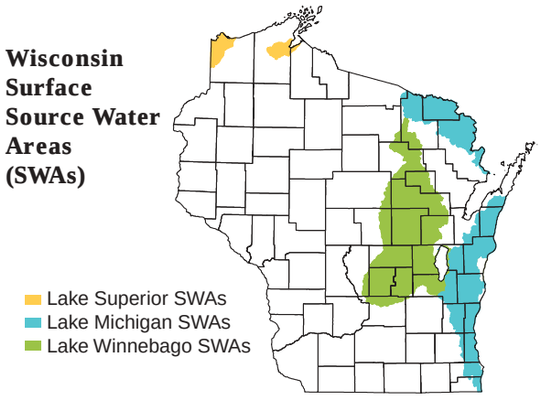
The Wisconsin DNR, in collaboration with local water utilities, has been identifying local impacts to sources of drinking water. The map below depicts watersheds determined to potentially affect source water quality for the following communities that use surface water: Appleton, Ashland, Cudahy, Green Bay, Kenosha, Manitowoc, Marinette, Menasha, Milwaukee, Neenah, North Shore, Oak Creek, Oshkosh, Port Washington, Racine, Sheboygan, South Milwaukee, Superior and Two Rivers.

Land uses and contaminant sources were identified in these source water areas to determine their impact to drinking water sources.

Detailed assessments for these communities are available at their local library, and at the Wisconsin DNR central office and website referenced in this brochure.

The Wisconsin DNR is working to promote protection of drinking water sources. These efforts include public outreach, watershed management and further analysis of impacts to sources of drinking water.

Wisconsin Surface Source Water Areas (SWAs)



How do surface water sources affect our drinking water?

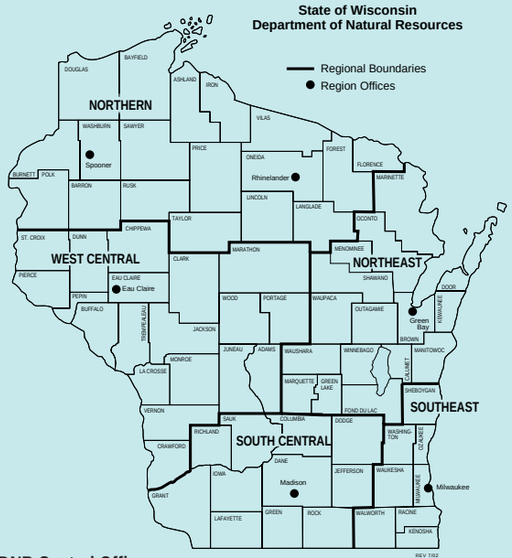
The quality of our surface water can affect the quality of drinking water entering our homes. A water treatment plant provides a reliable defense against contaminants and provides us with high quality drinking water. However, each contaminant entering a drinking water system has the potential of passing through treatment and reaching our homes. The less contamination present prior to treatment, the fewer contaminants there will be to potentially affect our drinking water.

Interested in learning more about your source water, what affects it and how it can be protected?

Contact the Wisconsin DNR Bureau of Drinking Water and Groundwater Central Office at (608) 266-0821 or visit the Wisconsin DNR Source Water Protection webpage at: http://www.dnr.state.wi.us/org/water/dwg

Image Acknowledgments: E.J. Epstein, Wisconsin DNR, Endangered Resources Bureau, Lake Michigan Coast (above). US Environmental Protection Agency (watershed).

Department of Natural Resources Offices



DNR Central Office
101 S. Webster,
P.O. Box 7921
Madison, WI 53707-7921
(608) 266-0821

Northern Region
810 W. Maple Street
Spooner, WI 54801
(715) 635-2101

107 Sutliff Avenue
Rhinelander, WI 54501
(715) 365-8900

Northeast Region
1125 N. Military Avenue
P.O. Box 10448
Green Bay, WI 54307-0448
(920) 492-5800

Southeast Region
2300 N. Dr. Martin Luther King, Jr. Drive
P.O. Box 12436
Milwaukee, WI 53212
(414) 263-8500

West Central Region
1300 W. Clairemont
P.O. Box 4001
Eau Claire, WI 54702-4001
(715) 839-3700

South Central Region
3911 Fish Hatchery Road
Fitchburg, WI 53711
(608) 275-3266

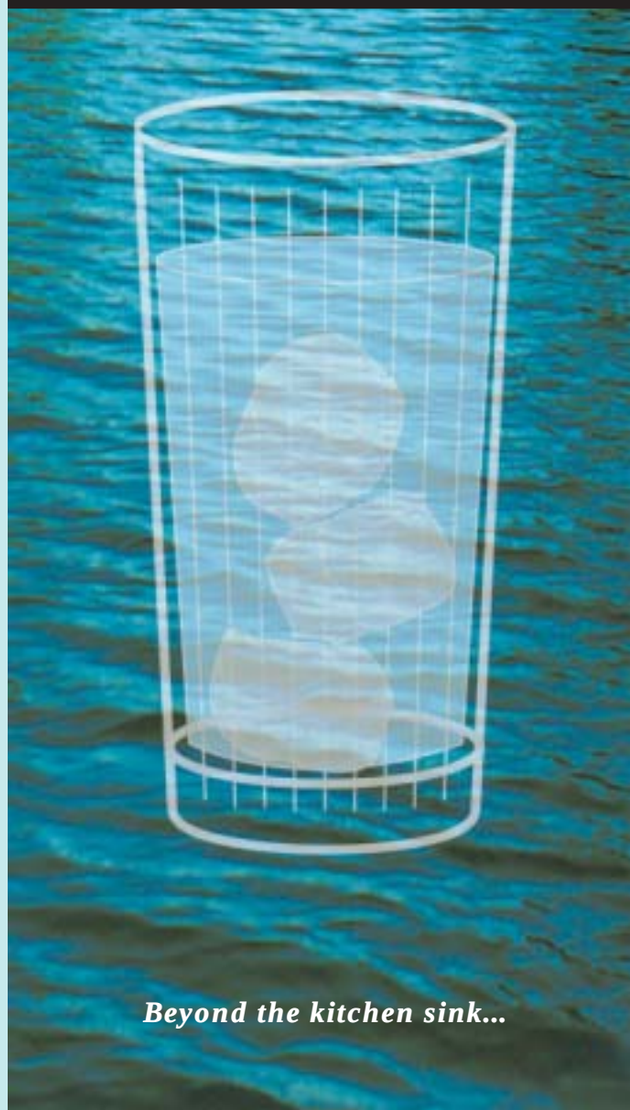
PUB DG-073 2003

PRINTED ON RECYCLED PAPER

GP7/03

Where Does Your Drinking Water Come From?

A guide to Wisconsin's surface sources of drinking water



Beyond the kitchen sink...

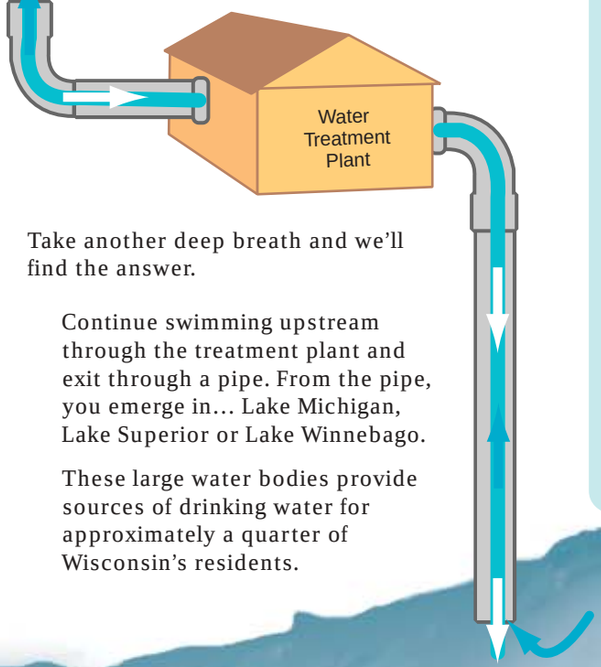
Where do we get our drinking water?

Let's go on a virtual trip.

Take a deep breath and crawl up the spigot of your kitchen sink.

You'll first enter a long system of underground pipes that eventually leads to your local water utility. Just keep swimming upstream and you'll find it.

At the water utility, you pass through various steps of treatment. These steps are designed to prevent contaminants from reaching your home.



Take another deep breath and we'll find the answer.

Continue swimming upstream through the treatment plant and exit through a pipe. From the pipe, you emerge in… Lake Michigan, Lake Superior or Lake Winnebago.

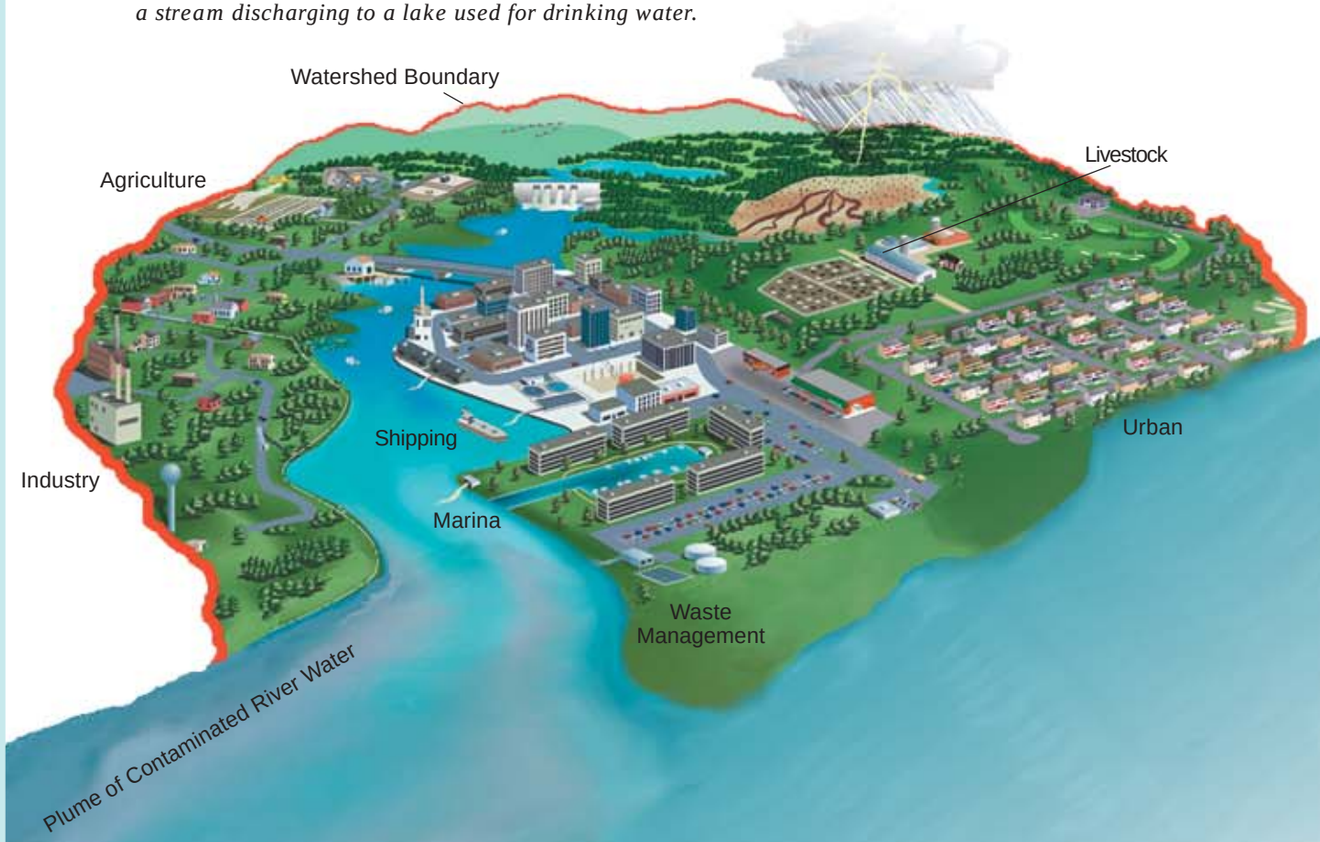
These large water bodies provide sources of drinking water for approximately a quarter of Wisconsin's residents.

How do we affect our surface water sources of drinking water?

Source water quality is largely a factor of regional lakewide characteristics, independent of human activities. With distance from shore and depth, most contaminants from land uses and human activities entering our surface sources of drinking water will dilute to very low levels. However, many communities that rely on surface water for their drinking water are located at the mouths of rivers. Unfortunately, rivers can deposit a heavy load of contaminants near their mouths and occasionally create plumes of contaminated water that extend far from shore.

Contaminants can enter surface water through various means. Pathways of contamination can be split into two main categories; point source pollution and nonpoint source pollution. Point source pollution includes specific, identifiable dischargers of contaminants. Examples of these include industrial and municipal wastewater outfalls. Point source dischargers are more easily regulated and held accountable for contaminating source water. Nonpoint source pollution comes from no specific source and diffusely enters surface water. Nonpoint source pollution includes contaminated runoff from agricultural and urban land and atmospheric deposition from burning fossil fuels.

The image below depicts a watershed with multiple land uses and potential contaminant sources draining to a stream discharging to a lake used for drinking water.



Contaminants that can affect surface source water and human health are divided into general groups below:

Microbial Contaminants, such as viruses and bacteria may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.

Inorganic Compounds, such as salts and metals may come from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.

Synthetic Organic Compounds, such as industrial products and pesticides may come from agriculture, storm water runoff, industrial activities, landfills, wastewater treatment facilities and residential areas.

Volatile Organic Compounds, such as petroleum products, cleaners and degreasers may come from industrial activities, gas stations, urban storm water runoff, wastewater treatment and septic systems.

Precursors of Disinfection By-Products, lead to the formation of carcinogenic by-products during chemical treatment of source water. Likely sources are agricultural and urban storm water runoff.